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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,042

01/23/2004

Gary E. Sommargren

IL-10209B

7952

7590

07/13/2004

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EXAMINER

LYONS, MICHAEL A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/764,042	Applicant(s) SOMMARGREN ET AL.	
	Examiner Michael A. Lyons	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

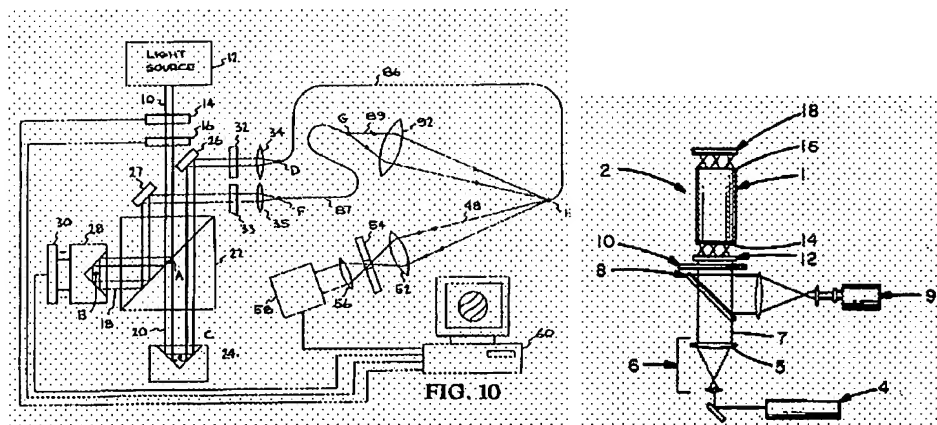
- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-18 and 29-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sommargren (5,933,236) in view of LaFleur (5,815,268).



As for claims 11 and 29, Sommargren discloses (Fig. 10) means for producing a diverging measurement wavefront G, means for producing a diverging reference wavefront D, means for phase shifting 32, a detector 58, and means for reflecting H. The device fails to disclose the negative lens under test, an aperture stop, an auxiliary optical element, and the lens removal.

With regard to the aperture stop and the auxiliary optical element, Official Notice is taken as to the known use of such devices in the art, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an aperture stop and auxiliary

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optical element to the device of Sommargren to limit the light impacting the test lens and collimate the light once through the lens, respectively. Since these elements only effect the transmission direction and shape of the light beam, and not any optical properties of the beam, their addition generates no significant change in the functionality of the device.

With regard to the lens under test, Sommargren does disclose a positive lens 92. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the positive lens of Sommargren with a negative lens to facilitate testing of the lens, as Official Notice is taken as to the well known similarities between positive and negative lenses; they share the same optical properties, and a test on a positive lens can also be used to test a negative lens.

With regard to the lens removal, LaFleur discloses (Fig. 1) the removal of lens system 2 (col. 2, lines 48-54) to allow for system calibration, where a measurement beam is sent through the system again without the lens system in place, such that the majority of errors inherent in the system can be removed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the test lens from the device of Sommargren as per LaFleur to facilitate calibration of the system using a second measurement beam to remove superfluous aberrations and enhance results.

With additional regard to claim 11, Sommargren in view of LaFleur discloses the lens testing device as described above. The device, however, fails to teach a method for proper use. Yet, since the device contains all the characteristics of the claimed apparatus, the claimed method can be applied to the tester to achieve the desired result.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method as disclosed in the claims on the device of Sommargren, thereby making the method non-unique to the claimed invention.

As for claim 37, Sommargren in view of LaFleur disclose a method for testing a lens as described above. Claim 37, however, discloses a method for a mirror under test. Because optical transmission and reflection emissions to share the same properties, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interchange the lens system of LaFleur for a mirror system to achieve the results prescribed by the claimed method.

As for claims 12 and 30, Sommargren discloses a planar diffracting aperture consisting of single mode fiber 87 with pinhole F.

As for claims 13 and 31, Sommargren discloses a reflecting end H on the fiber optic.

As for claims 14 and 32, Sommargren discloses an imaging lens 56.

As for claims 15, 33, and 38, Official Notice is taken as to the well known selection of a positive lens for an auxiliary optical element.

As for claims 16 and 34, Sommargren discloses a CCD 58.

As for claims 17-18 and 39-41, Official Notice is taken as to the well known use of the mathematical analyses disclosed for analyzing the results.

As for claims 35 and 36, Sommargren discloses a computer 60 to perform mathematical analyses.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420.

The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAL
July 7, 2004

A handwritten signature in black ink, appearing to read 'Samuel A. Turner', with a stylized flourish at the end.

Samuel A. Turner
Primary Examiner